MLSE-0300A2NP0

MLS

MAGNETIC SENSORS

SICK
Sensor Intelligence.

MLSE-0300A2NP0 | MLS

MAGNETIC SENSORS

Ordering information

Type	part no.
MLSE-0300A2NP0	1090688

Other models and accessories ➔ www.sick.com/MLS

Detailed technical data

Features

Detection range typ.	300 mm
Operating height	10 mm … 70 mm
Electrical wiring	DC 4-wire
Enclosure rating	IP65, IP67, IP68 [1]

[1] According to EN 60529.

Mechanics/electronics

Supply voltage	9 V DC … 30 V DC
Terminal resistor	No internal terminator
Protection class	III
Power consumption	600 mW
Resolution, typ.	1 mm
Repeat accuracy, typ.	1 mm
Update rate	100 Hz
Teach-in	✓
Reverse polarity protection	Yes
Short-circuit protection	Yes
Ambient operating temperature	−20 °C … +70 °C
Shock and vibration resistance	30 g, 11 ms/10 Hz … 55 Hz, 1 mm
EMC	EN 61000-6-2, EN 61000-6-4
Connection type	Cable with M8 male connector, 4-pin, 0.3 m [1]
Connection type Detail	

[1] Do not bend below 0 °C.

Conductor cross section	0.08 mm²
Material	
Housing	Metal, Aluminum, plastic
Cable	PUR
UL File No.	NRKH.E181493 & NRKH7.E181493

[1] Do not bend below 0 °C.

Safety-related parameters

$MTTF_D$	125 years
DC_{avg}	0 %
T_M (mission time)	20 years

Communication interface

Communication interface	CANopen

Diagnosis

Orientation	
Number of axis	3
Roll Euler angle measuring range	± 180°
Pitch Euler angle measuring range	± 90°
Yaw Euler angle measuring range	± 180°
Resolution	0.02°
Roll repeatability	± 1°
Pitch repeatability	± 1°
Yaw repeatability	± 1° [1]
Maximum rotation rate	2,000 °/s
Quaternion w measuring range	0 ... + 1
Quaternion x measuring range	–1 ... 1
Quaternion y measuring range	–1 ... 1
Quaternion z measuring range	–1 ... 1
Update rate	100 Hz
Limit frequency	100 Hz
Initialization time	640 ms
Sampling rate	200 Hz [2]
Acceleration measuring range	± 16 g [2]
Rotation rate measuring range	± 2,000 °/s [2]

[1] Not long-term stable.
[2] Raw data.

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓

China-RoHS	✓
cULus certificate	✓
CANopen certificate	✓

Classifications

ECLASS 5.0	27270104
ECLASS 5.1.4	27270104
ECLASS 6.0	27270104
ECLASS 6.2	27270104
ECLASS 7.0	27270104
ECLASS 8.0	27270104
ECLASS 8.1	27270104
ECLASS 9.0	27270104
ECLASS 10.0	27270104
ECLASS 11.0	27270104
ECLASS 12.0	27274301
ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC002544
UNSPSC 16.0901	39122230

Connection diagram Cd-396

BN	1	+ (L+)
BK	4	CAN LOW
BU	3	- (M)
WH	2	CAN HIGH

Dimensional drawing

L1

20 (0.79)

ø 8.2 (0.32)

19.5 (0.77)

20 (0.79)

ø 2.6 (0.10)

14 (0.55)

7.5 (0.3)
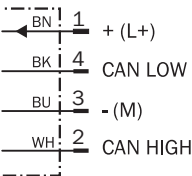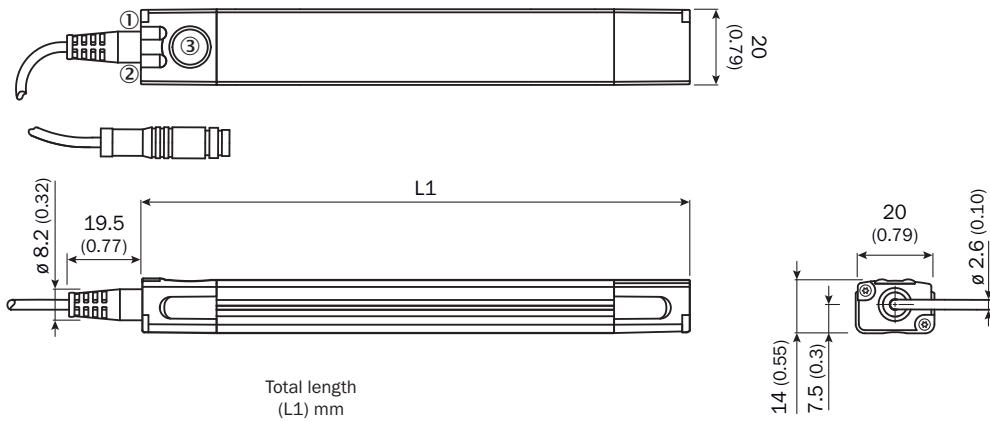
	Total length (L1) mm
MLSE-0200	217
MLSE-0300	325
MLSE-0400	397
MLSE-0500	505
MLSE-0600	613

Dimensions in mm (inch)
① Function signal indicator 1
② Function signal indicator 2
③ Teach-Pad

Recommended accessories

Other models and accessories → www.sick.com/MLS

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Bracket for lateral mounting • **Material:** Stainless steel, brass • **Details:** Stainless steel V2A (bracket/mounting screw), Brass (fixing screw) • **Usable for:** MPA-107 mm … 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm … 431 mm (measuring range sensor), 3 (recommended number mounting brakets), MPA-467 mm … 647 mm (measuring range sensor), 4 (recommended number mounting brakets), MPA-683 mm … 791 mm (measuring range sensor), 5 (recommended number mounting brakets), MPA-827 mm … 1007 mm (measuring range sensor), 6 (recommended number mounting brakets)	BEF-WNZ01MPA	2065577
	• **Description:** Bracket for low mounting • **Material:** Stainless steel, brass • **Details:** Stainless steel V2A (bracket/mounting screw), Brass (fixing screw) • **Usable for:** MPA-107 mm … 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm … 431 mm (measuring range sensor), 3 (recommended number mounting brakets), MPA-467 mm … 647 mm (measuring range sensor), 4 (recommended number mounting brakets), MPA-683 mm … 791 mm (measuring range sensor), 5 (recommended number mounting brakets), MPA-827 mm … 1007 mm (measuring range sensor), 6 (recommended number mounting brakets)	BEF-WNL01MPA	2065973

	Brief description	**Type**	**part no.**
magnets			
	• **Product segment:** Magnets • **Product:** Magnetic tapes • **Description:** Magnetic tape, North is top side, adhesive, width 25 mm, length 50 m	MAGNETIC TAPE	5337613
	• **Product segment:** Magnets • **Product:** Magnetic tapes • **Description:** Magnetic tape, South is top side, adhesive, width 25 mm, length 50 m	MAGNETIC TAPE	5337614
	• **Product segment:** Magnets • **Product:** Magnetic tapes • **Description:** Magnetic tape, north pole on top, self-adhesive, width = 25mm, external length = 524 mm, internal length = 511 mm, radius =1000 mm, 30° section	Magnetic tape, curved	5344198
	• **Product segment:** Magnets • **Product:** Magnetic tapes • **Description:** Magnetic tape, South is top side, adhesive, width 25 mm, length 50 m	MAGNETIC TAPE	5350884
	• **Product segment:** Magnets • **Product:** Magnetic tapes • **Description:** Magnetic tape, North is top side, adhesive, width 25 mm, length 50 m	MAGNETBAND	5350883
Commissioning aids and test equipment			
	• **Product:** Alignment aids • **Description:** Positioning device for magnetic markers (5337613, 5337614) for MLS	TEMPLATE	4097520

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-020UA3XLEAX	2094791
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-050UA3XLEAX	2094792
	• **Connection type head A:** Female connector, M8, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG8U14-020UA3XLEAX	2095589
	• **Connection type head A:** Female connector, M8, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG8U14-050UA3XLEAX	2095590
	• **Application:** Zones with chemicals, Uncontaminated zones	YF8U14-011VA3FYDN2	2098412
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-C60UA3XLEAX	2145825
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-010UA3XLEAX	2145826
integration modules and adapters			
	• **Description:** CAN-USB Adapter to connect MLS with a PC	AKA-NXL1BXB12KX	6067651

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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